

**PARTS REPLACEMENT MANUAL**  
**for Nos. TD715, TD725,**  
**TD815 and TD825**  
**Torque-Arm Speed Reducers**  
**with Ball Bearings**

**WARNING:** Because of the possible danger to persons(s) or property from accidents which may result from the improper use of products, it is important that correct procedures be followed. Products must be used in accordance with the engineering information specified in the catalog. Proper installation, maintenance and operation procedures must be observed. The instructions in the instruction manuals must be followed. Inspections should be made as necessary to assure safe operation under prevailing conditions. Proper guards and other suitable safety devices or procedures as may be desirable or as may be specified in safety codes should be provided, and are neither provided by Baldor Electric Company nor are the responsibility of Baldor Electric Company. This unit and its associated equipment must be installed, adjusted and maintained by qualified personnel who are familiar with the construction and operation of all equipment in the system and the potential hazards involved. When risk to persons or property may be involved, a holding device must be an integral part of the driven equipment beyond the speed reducer output shaft.

**BALDOR**

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Before Ordering see page 4.

Reference	Name of Part	No. Req'd.	TD715 & TD725 Reducers		TD815 & TD825 Reducers	
			Part No.		Part No.	
12	Backstop Assembly	1	247092		248101	
14	HOUSING ASSEMBLY ★	1	390107		390108	
15	▲ Air Vent with Bushing	1	390061		390061	
16	▲ Housing Bolt	2	411498		411499	
18	▲ Adapter-Housing Bolt	2	411499		411502	
20	▲ Lockwasher	1	419016		419016	
22	▲ Plain Washer	2	419082		419082	
24	▲ Hex Nut	1	407095		407095	
26	▲ Dowel Pin	2	420128		420128	
28	▲ Housing Gasket	1	247219		248219	
29	▲ Pipe Plug	2	430035		430035	
30	▲ Magnetic Plug	1	430064		430064	
30	▲ Countershaft Bearing Cover	2	247224		248224	
31	Input Shaft Seal Carrier	1	247220		248212	
32	Carrier Cap Screw	**	411412		411408	
33	Lockwasher	**	419011		419011	
34	Carrier Gasket	2	247223		248216	
35	Backstop Carrier	1	247222		248222	
36	Carrier Cap Screw	**	411408		411408	
37	Lockwasher	**	419011		419011	
38	Backstop Cover	1	247221		248221	
39	Backstop Cover Gasket	1	246220		248220	
40	Cover Cap Screw	6	411402		411402	
41	Lockwasher	6	419009		419009	
42	Input Shaft {15 to 1 Ratio} <sup>■</sup>	1	247009		248009	
	with Pinion {25 to 1 Ratio} <sup>⌘</sup>	1	247004		248004	
43	Input Shaft Seal	1	242202		248203	
44	Input Shaft Snap Ring	1	421017		421019	
46	Input Shaft Bearing — Input End	1	390311		390314	
48	Input Shaft Bearing — Backstop End	1	390305		390315	
	COUNTERSHAFT {for 15 to 1 Ratio} <sup>■</sup>	1	390122		390123	
	ASSEMBLY ★ {for 25 to 1 Ratio} <sup>⌘</sup>	1	390137		390138	
50	▲ Countershaft with Pinion	1	247006		248006	
52	▲ First Reduction {for 15 to 1 Ratio} <sup>■</sup>	1	247008		248213	
	Gear {for 25 to 1 Ratio} <sup>⌘</sup>	1	247005		248214	
54	▲ Key	1	247218		248218	
56	Countershaft Bearing	2	390312		390315	
	OUTPUT HUB ASSEMBLY ★	1	390157		390158	
58	▲ Output Hub	1	247208*		248208	
60	▲ Output Gear	1	247215		248007	
62	▲ Key	1	245217		390112	
64	▲ Output Hub Snap Ring	2	421038†		.....	
66	Output Hub Collar with Screws	2	247209		248209	
68	Collar Screws	4	400190		400190	
70	Output Seal	2	247210		248210	
72	Output Hub Bearing	2	390313		390316	
	TORQUE-ARM ASSEMBLY ★	1	247098		247098	
74	▲ Rod End	1	247239		247239	
76	▲ Hex Nut	1	407099		407099	
78	▲ Turnbuckle	1	247246		247246	
80	▲ Extension	1	247240		247240	
82	▲ L.H. Hex Nut	1	407248		407248	
84	▲ Fulcrum	1	247248		247248	
86	▲ Fulcrum Bolt	1	411489		411489	
87	▲ Lockwasher	1	419014		419014	
88	▲ Hex Nut	1	407093		407093	
90	L.H. Adapter Plate	1	247241		248241	
92	R.H. Adapter Plate	1	247242		248241	
94	Adapter Bushing	1	247244		247244	
96	Adapter Bolt	1	411485		411487	
98	Lockwasher	1	419014		419014	
99	Hex Nut	1	407093		407093	

\* Includes parts listed immediately below marked "▲". Housing Assembly also includes two-piece housing.

▲ The parts marked "▲" make up the assemblies under which they are listed. Housing Assembly also includes two-piece housing.

▲ Not shown on drawing.

§ 6 required for TD715 and TD725; 9 required for TD815 and TD825.

§ 8 required for TD715 and TD725; 11 required for TD815 and TD825.

\*6 required for TD715 and TD725; 8 required for TD815 and TD825.

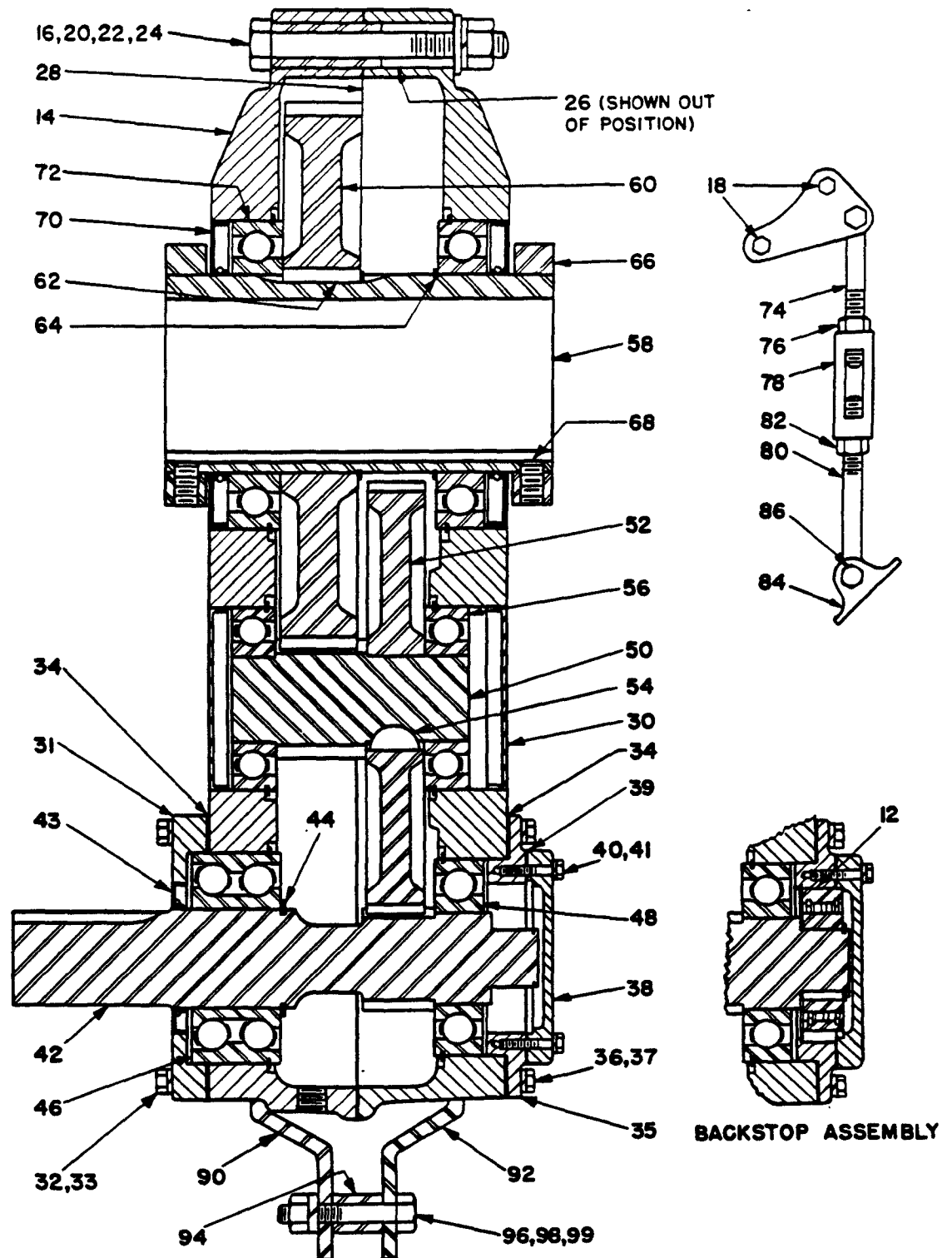
■ Approximate ratio of TD715 and TD815 reducers.

⌘ Approximate ratio of TD725 and TD825 reducers.

◆ 1 required for 25 to 1 ratio. None required for 15 to 1 ratio as shaft is shouldered.

\* For TD715 reducers with Serial No. 2658 and lower and TD725 reducers with Serial No. 1590 and lower, Output Hub Snap Rings must be ordered with Output Hub.

† For TD715 reducers with Serial No. 2658 and lower and TD725 reducers with Serial No. 1590 and lower, if new Output Hub is not ordered, specify Output Hub Snap Ring No. 390188 for use with original hub.



NOTE: The two digit numbers are for reference only. Order parts by the six digit part numbers in the Parts List. Each six digit number is a complete identification of the part or assembly.

## Replacement of Parts

### IMPORTANT:

Using tools normally found in a maintenance department, a Dodge Torque-Arm Speed Reducer can be disassembled and reassembled by careful attention to the instructions given below.

Cleanliness is very important to prevent the introduction of dirt into the bearings and other parts of the reducer. A tank of clean solvent, an arbor press, and equipment for heating bearings and gears, should be available for shrinking these parts on shafts.

Our factory is prepared to repair reducers for customers who do not have proper facilities or who for any reason desire factory service.

The oil seals are of the rubbing type and considerable care should be used during disassembly and reassembly to avoid damage to the surface which the seals rub upon.

The keyseat in the input shaft as well as the six holes in the output hub should be covered with scotch tape or paper before disassembly or reassembly. Also be careful to remove any burrs or nicks on surfaces of input shaft and output hub before disassembly or reassembly.

### ORDERING PARTS:

When ordering parts for reducer specify Reducer Size No., Reducer Serial No., part name, part number, and quantity.

It is strongly recommended that when a pinion or gear is replaced, the mating gear or pinion be replaced also.

If the large gear on the output hub must be replaced it is recommended that an output hub assembly of a gear assembled on a hub be ordered to secure undamaged surfaces on the output hub where the oil seals rub. However, if it is desired to use the old output hub, press the gear and bearing off and examine the rubbing surface under the oil seal carefully for possible scratching or other damage resulting from the pressing operation. To prevent oil leakage at the shaft oil seals the smooth surface of the output hub must not be damaged.

If any parts must be pressed from a shaft or from the output hub, this should be done before ordering parts to make sure that none of the bearings or other parts are damaged in removal. Do not press against outer race of any bearing.

Because old shaft oil seals and housing gasket may be damaged in disassembly it is advisable to order replacement for these parts.

### REMOVING REDUCER FROM SHAFT:

Loosen screws in both output hub collars. Remove the collar next to end of shaft. This exposes

three puller holes in the output hub to permit use of wheel puller. In removing reducer from shaft be careful not to damage ends of hub.

### DISASSEMBLY:

1. Remove all bolts from housing. Open housing evenly to prevent damage to parts inside.
2. Lift shaft, gear, and bearing assemblies from housing.
3. Remove seals from housing.

### REASSEMBLY:

1. **Output Hub Assembly:** Heat gear to 325 to 350°F. to shrink onto hub. Heat bearings to 270 to 290°F. to shrink onto hub. Any injury to the hub surfaces where the oil seals rub will cause leakage, making it necessary to use a new hub.
2. **Countershaft Assembly:** Shaft and pinion are integral. Press gear and bearings on shaft. Press against inner (not outer) race of bearings.
3. **Input Shaft Assembly:** Shaft and pinion are integral. Press bearings on shaft. Press against inner (not outer) race of bearings.
4. Place right half of housing (as shown in drawing) on blocks to allow clearance for protruding end of output hub.
5. Mesh output hub assembly and countershaft assembly together and place in housing half. Place input shaft assembly in housing half. Tap lightly with a rawhide hammer (not lead hammer) until bearings are properly seated in the housing. Make sure that the snap rings on the O.D. of the bearings come into contact with the housing.
6. Place a new housing gasket on the housing half. Place other half of housing into position and tap with a soft hammer until the housing bolts can be used to draw the halves together. Draw halves together evenly to prevent damage to parts. Torque housing bolts to 3120 pound-inches.
7. Extreme care should be used in installing seals on input shaft and output hub to avoid damage to seals due to contact with sharp edges of the keyseat in the input shaft or the hole in the output hub. This danger of damage and consequent oil leakage can be decreased by covering the keyseat and holes with scotch tape or paper which can be removed subsequently. Chamfer or burr housing bore if end of bore is sharp or rough. Fill cavity between lips of each seal with grease. Seals should be pressed or tapped with a soft hammer evenly into place in the housing, applying force only on the outer corner of seals. A slight oil leakage at the seals may be evident during initial running in, but will disappear unless the seals have been damaged.

**Table of Bearing Numbers**

Bearing	No. Req'd.	Company	Bearing Number		The bearing numbers given in the parts list on the inside of this sheet are Dodge Parts numbers. To the left are also given the corresponding New Departure numbers to permit the purchase, if desired, of New Departure or equivalent bearings made by other bearing manufacturers.
			TD715 and TD725	TD815 and TD825	
Input Shaft Bearing—Input End	1	Dodge New Departure	390311 45313X1A	390314 45314X1A	
Input Shaft Bearing—Backstop End	1	Dodge New Departure	390305 43312X1A	390315 43313X1A	
Countershaft Bearing	2	Dodge New Departure	390312 43311X1A	390315 43313X1A	
Output Hub Bearing	2	Dodge New Departure	390313 43L26X1A	390316 43L28X1A	